Government of Nepal
National Reconstruction Authority

Singhadurbar, Kathmandu

Expression of Interest

Invitation Document for Short-listing of Consulting Firms

For

Structural Condition Assessment and

Strengthening/Retrofitting Design of West Lounge of

Singhadurbar

Singhadurbar,Kathmandu

(Contract ID No: NRA/Service/2074-75/01)

Procurement Unit

National Reconstruction Authority

Singhadurbar, Kathmandu

August 2017

Abbreviations

CV	-	Curriculum Vitae
DPO	-	Development Partner Organization
EA	-	Executive Agency
RFP	-	Request for Proposal
EOI	-	Expression of Interest
GON	-	Government of Nepal
PAN	-	Permanent Account Number
PPA	-	Public Procurement Act
PPR	-	Public Procurement Regulation
TOR	-	Terms of Reference
VAT	-	Value Added Tax
LSM	-	Low Strength Masonry

Table of Contents

1. Request for Expression of Interest

Government of Nepal
National Reconstruction Authority (NRA)
Request for Expression of Interest (EOI)
First date of publication: 2074/05/26

1. National Reconstruction authority (NRA) has allocated fund for Structural Condition Assessment and Strengthening/ Retrofitting Design of West Lounge of Singhadurbar at Singhadurbar, Kathmandu.
2. The NRA now invites Expression of Interest (EOI) from eligible consulting firms to provide the consulting services;
   "Structural Condition Assessment and Strengthening/ Retrofitting Design of West Lounge of Singhadurbar."
3. Interested eligible consultants may obtain further information and EOI document free of cost at the following address during office hours on or before **2074/06/9** or visit the NRA website ***www.nra.gov.np.***
4. Consultants may associate with other consultants to enhance their qualifications.
5. Expressions of interest shall be delivered to the following address on or before **12:00 Hours** of **2074/06/10.**
6. In case the last date of obtaining and submission of the EOI documents happens to be a holiday, the next working day will be deemed as the due date but the time will be the same as stipulated.
7. EOI will be assessed based on *Qualification [25%]***,** *Experience [60%], and Capacity [15%*] of consulting firm and Team leader. Based on evaluation of EOI, only shortlisted firms will be invited to submit technical and financial proposal through a request for proposal.
8. Minimum score to pass the EOI is *60%.*
9. Only top six consultants shall be selected for RFP.

Procurement Unit
National Reconstruction Authority
Singhadurbar, Kathmandu, Nepal
Tel: 01-4211491, 01-4200626, 01-4211201

2. Instructions for submission of EOI

1. Expression of Interest may be submitted by a sole firm or a joint venture of consulting firms.
2. In case of joint venture, lead firms should have minimum 60% financial capacity and JV firms can contribute only 40% in financial evaluation.
3. Interested consultants must provide information indicating that they are qualified to perform the services *(descriptions, organization and employee and of the firm or company, description of assignments of similar nature completed in the last 7 years and their location, experience in similar conditions, general qualifications and the key personnel to be involved in the proposed assignment).*
4. This expression of interest is open to all eligible Nepalese Consulting firms.
5. The assignment has been scheduled for a period of 13 Months. Expected date of commencement of the assignment is Ashwin 2074.
6. A Consultant will be selected in accordance with the *Quality and Cost Based Selection (QCBS)* method.
7. Expression of Interest should contain following information:
   (i) A covering letter addressed to the representative of the client on the official letter head of company duly signed by authorized signatory.
   (ii) Applicants shall provide the following information in the respective formats given in the EOI document:
      - *EOI Form: Letter of Application (Form 1)*
      - *EOI Form: Applicant's Information (Form 2)*
      - *EOI Form: Work Experience Details (Form 3(A), 3(B) & 3(C))*
      - *EOI Form: Capacity Details (Form 4)*
      - *EOI Form: work experience of Team Leader (form 5).*
8. The Expression of Interest (EOI) document must be duly completed and submitted in sealed envelope and should be clearly marked as "EOI Application for Short-listing for the Structural Condition Assessment and Strengthening/Retrofitting Design of West Lounge of Singhadurbar, Kathmandu". The Envelope should also clearly indicate the name and address of the Applicant. Alternatively, applicants can submit their EOI application through e-GP system by using the forms and instructions provided by the system.
9. The completed EOI document must be submitted on or before the date and address mentioned in the "*Request for Expression of Interest"***.** In case the submission falls on public holiday the submission can be made on the next working day. Any EOI Document received after the closing time for submission of proposals shall not be considered for evaluation.
10. NRA reserves the right to accept or reject any or all EOI proposals with or without giving any reason whatsoever and is not liable for any losses to applicant due to such rejection.

3. Terms of Reference (TOR).

3.1 BACKGROUND

Singhadurbar is one of the historic building having heritage value of Nepal. It was built by Chandra Shumsher JBR in June 1908. Initially it was a small private residence, but was later extended into a large structure. Immediately after completion of construction, Chandra Shumsher sold the heritage to the government of Nepal and was soon used as the official residence of Prime Minister during Rana Dynasty. After the abolition of Rana Dynasty, it completely became national property and since then has been used as an administrative building of Nepal Government.

On 25 April, 2015, a devastating earthquake of magnitude 7.8 struck Gorkha, a neighboring district of Kathmandu. The catastrophic earthquake was followed by more than 487aftershocks of magnitude equal to or greater than 4. Among the aftershocks four aftershocks were greater than 6 and caused approximately 8500 casualties and 22300 injuries.

Singhadurbar is one of the historical structures believed to be heavily damages by the Gorkha Earthquake of 2015, along with many other important structures of Kathmandu and other parts of Nepal.

It is imperative to preserve the old heritage sites and buildings as they are representative of civilization and a major concern from the archeological point of view. Taking this in mind, central level project implementation unit (CLPIU), Ministry of Urban Development, Babarmahal, Kathmandu accomplished the first phase of detail damage assessment of west lounge of Singhadurbar. To decide on the appropriate means to reinstate the structure to its service, NRA feels the need to conduct a second phase of detail damage assessment.

3.2 OBJECTIVE OF THE ASSIGNMENT

The main objective of hiring the consulting firm's service is to assess the Structural Condition of west lounge of Singhadurbar followed by necessary tests, analysis and design to decide on the type of intervention suitable to the heritage structure. Another objective is to support NRA in selection of qualified builder for the intervention work and supervision of the work. Specific objectives are:

i. Identify the signs of distress or deficiency in the structure, in the structural

components and in the structural system.

ii. Determine the level of deficiency or distress in terms of safety and serviceability requirements.

iii. Determine the causes of the distress with necessary corroboration of tests and analysis. Also to identify the causes as the lack of maintenance, deterioration and aging of materials, due to earthquake

iv. Determine the damages and distress in terms of remedy: minor repair, major repair, strengthening required or new reconstruction after demolition of the existing structure.

v. Prepare the Inventory of the non-structural/decorative elements of heritage value with their physical condition.

vi. Develop various retrofitting and maintenance options, cost comparison and selecting the best feasible option.

vii. Detailed structural design of retrofitting and other maintenance work to reinstall the building structurally to the earthquake resilient standard,

viii. Detail Cost estimate of retrofitting and maintenance work and which helps in determining resources required for permanent recovery.

ix. Assist the client in procurement work with complete bidding documents.

x. Construction supervision of the proposed retrofitting and maintenance work.

xi. Periodic reporting to client and conducting meeting between client and contractor.

3.3 SCOPE OF WORK

The scope of consulting services is divided in three major Phases namely,

Phase I: Structural Condition Assessment.

Phase II: Intervention Design and Procurement of Works

Phase III: Construction Supervision and Defect Liability Period.

3.4 Phase I: Structural Condition Assessment

The scope of work is to be carried out by the consultant in phase (I) shall include but shall not be limited to the following:

i. Collect information relating to the design, construction, maintenance and history of the building and other heritages properties;

ii. Conduct field survey and measurement to prepare as-built drawings of structural and non-structural components of the building including elevations, floor plans, heritage building fabric, exterior and interior spaces, detailing, finishes and characteristics

iii. Consultation with DOA, Singhadabar, Heritage Preservation, Public Buildings and infrastructures Division and other stakeholders, carry-out inventory of all the heritages properties.

iv. To assess the extent of distress and to estimate the residual strengths of structural components and the system including the foundation.

v. To record the damage if any and find out the causes for distress, conduct non-destructive, semi-destructive as well as laboratory testing of materials (brick, motors, timber, and others), structural and non-structural elements of the buildings and others after the approval from NRA.

vi. Carry out details structural condition assessment including necessary engineering surveys and investigations such as geotechnical investigation, soil survey/analysis as well as computer simulation of structural and non-structural components of the buildings.

vii. Prepare a draft conditional assessment reports and present to NRA for their comments.

viii. Prepare final report with recommendations incorporating Expert panel comments and feedbacks.

ix. Consultants shall carry out the structural condition assessment generally in two levels:

3.4.1 Methodology

A. Preliminary Assessment

B. Detailed Assessment.

A. Preliminary Assessment

A.1 Rapid Visual Investigation:

The rapid visual investigation shall be carried out in three following steps:

- Collection of information and details about the building design, construction, utilization, and maintenance in the past
- Visual inspection of condition at site and recording details of distress.
- Evaluation of safety against the provisions in building codes or specified performance criteria.

A.2 Information required:

- Complete record of building design details and drawings,
- Architectural details, construction details and drawings,
- Specifications of materials used,

- Geotechnical details of the area and foundation particulars,
- Details of any repair or retrofitting done from the time of construction,
- Details of usage of the building including the loads.
- Nondestructive testing results on wall materials, timber elements and other materials.
- In the absence of the above information, detailed investigations have to be conducted.

A.3 Details in visual Investigation

The main purpose of visual investigation is to observe and note down all the items of distress or design deficiency and their locations, supported by sketches and drawings. The visual inspection includes:

- Verification of the accuracy of the original drawings or determination of basic building information, if no drawings are available.
- Identification of major alterations not shown on the original construction documents.
- Identification of visible structural damage, such as observations on quality of construction.
- Identification of potential non-structural falling hazards, including ceilings, partitions, curtain walls, parapets, fixtures, and other non-structural building elements.
- Observations on the condition of soil and the foundation.
- Documentation of existing conditions with photographs at key locations.
- Details about any deviations observed at the site from the original drawings have also to be recorded.

Based on the data collected about the details of the building, visual observation of damage/distress in different structural components and the system, structural engineers experts can categorize the type and severity of damage and make judgments about further course of action.

B. Detail Assessment

The detail assessment involves a more detailed structural condition assessment with complete analysis of the building for seismic strengthening measures as modifications to correct/reduce seismic deficiencies identified during the evaluation procedure in preliminary assessment. Seismic retrofit becomes necessary if the building does not meet minimum requirements of the current Building Code, and may suffer severe damage or even collapse during a seismic event or by any other causes.
Following process shall follow in detail assessment.

(i) Review Initial information.

(ii) Setting Performance Objective.

(iii) Conforming design Basis Earthquake.

(iv) Detailed technical Investigation.

Detail investigation will be carried out to find precise values of material strength. For this, non-destructive and intrusive techniques may be employed for determining the strength of the material.

(v) Seismic Analysis

Structural analysis is a part of the structural condition assessment of an existing building. In this part detail and intensive structural analysis should be carried out. The method of analysis is to be finalized at this stage based on building data. The structural analysis is performed using a suitable computer analysis program. The numerical modelling and analysis should be such that it should represent the behavior of the building such as discontinuous and cracks.

Possible Tests Required

Appropriate Semi-destructive or Non-destructive tests for structural condition assessment are to be carried out.
Laboratory investigation when and where necessary should be carried out to test the samples of new and existing materials.
The laboratory test shall be performed in the presence of technical personal from NRA.

a. Foundation digging and investigation whether foundation elements are discontinuous or not.
b. Borehole test-8 nos. @ 16m. depth at four corners and other suitable places.
c. Masonry elements test.
d. Mortar test and correlation with age factor.

Consultant may suggest suitable other test but and can carry out the test after approval by peer review expert panel of NRA.

Deliverable shall include:

a) *Inception report with details methodology, work plan and work schedule*

b) *At least one presentation regarding study methodologies, work-progress and findings.*

c) *Complete set of details as-built drawings of structural and non-structural components of the building including elevations, floor plans, heritage building fabric, exterior and interior spaces, detailing, finishes and characteristics with high resolution photographs.*

d) *Details damage mapping with necessary drawings and high resolution photographs.*

e) *Inventory of all the heritage properties with high resolution photographs.*

f) *Authorized material and other test reports.*

g) *Details condition assessment report with specific recommendations with necessary justification.*

The consulting form shall commence works of Phase (II) only if tests and studies carried out in Phase (I) indicate need of conservation of building by any means of repair, restoration or retrofitting technique.

3.5 Phase II: Intervention Design and Procurement of Works

If first phase study indicates possibility of conservation of the building, the consultants shall design the building for retrofitting/restoration, following the standard codes of practice, norms and guidelines. The relevant codes for the design Nepal National Building Code (NBC: 1994), Revised NBC: 2015, IS Codes, and other relevant Rule and Regulation shall be followed. The consultant shall also prepare the cost estimate of retrofitting, minor repair/maintenance, coloring, decorative elements restoration cost of the building which restores the building to functional, earthquake resilient standard and in original aesthetic appearance. The consultants shall collect information on sources of construction materials and their lead distances and prepare rate analysis, rate schedules and cost estimates based on the standard norms and prevailing district rates. All the reusable materials like door/windows, woods shall be used during restoration.

In the course of intervention design, if necessary the consultant can carry suitable test for the conformation of structural condition of building taking approval from NRA. Consultancy Standard testing procedures such as BS and ASTM could also be allowed. The possible test that can be carried out are as follows.

- Push or Shove Test.
- Penetrometer test
- Split-cylinder test
- Resistographic test of Timber
- Wallet test.

Consultant may suggest suitable other test with budget and can carry out the test after approval of peer review expert panel of NRA.

The Scope of work to be carried out by consultant in Phase II shall include but not limited to the following:

i. To develop rehabilitation plan with detailed description of the repairs of the structural elements and the structural system, if the damages are limited to structural and non-structural elements, and the system is stable, safe and stiff enough to withstand future action of regular loading and occurrence of large earthquake.
ii. To develop the strengthening/retrofitting scheme with detailed design and comparative analysis of options if the structural/seismic capacity of the structure is not adequate for future structural/seismic action.
iii. To prepare detailed design and drawings of selected option and will provide:
    - Detailed Architectural Design and working Drawings for retrofitting
    - Floor plans (1:100)
    - Finishing schedule plans (1:200)
    - Four side Elevations (1:100)
    - Longitudinal sections (at least from two direction cutting staircase)
    - Door and window schedule with counts and detail drawings and specification.

- Blow up Details (Staircase; toilets; wall sections with blow up details of sill, lintel, parapet, overhangs, ducts, expansion joint, flooring and roofing and counter; low walls or partitions; handrail;
- Detail Structural Design and Drawings in A3 size format
  - Structural Model
  - Structural report including design philosophy, design parameters, Load calculations, calculation and design of structural component like slab, foundation, staircase, shear wall, lift etc.

iv. To determine the detailed cost estimate and time estimate for the intervention work (repair, strengthening/retrofitting). The following items are to be prepared and submitted:
- Detail Quantity estimate and abstract of cost of each components
- Consolidated abstract of cost
- Bill of Quantities.
- Rate of items are to be used from the District Rate analysis collecting them from the related division offices. If there are any items which are not included in that rate analysis, consultant has to prepare rate analysis for those items based on prevailing norms.
- Technical specification for Civil, Sanitary, Electrical and Mechanical Works

v. To prepare Bidding Documents following PPMO standard Bidding Document (Method of procurement shall be decided in consultation with NRA). It includes:
- Bidding Documents including Technical Specifications and Drawings.
- Bills of Quantities covering both the demolition of existing parts of building (if needed) and new works.
- Assisting NRA in the bidding process including the preparation of procurement plan, invitation of bid and bid opening.
- Facilitate for contract agreement between NRA and successful bidder.

Note:
- ✓ Drawings should include Design / Working drawings
- ✓ All the rights in bid evaluation and awarding the contract will reserve to NRA.

Deliverable shall include:-

a) Comparative analysis of intervention options.
b) Detailed design of selected intervention option and Bidding Drawings
c) Detailed Cost Estimates, Work Specifications
d) Bid invitation.
e) Record of clarifications, pre-bid meetings.
f) Complete set of bidding Documents

3.6 PHASE III: CONSTRUCTION SUPERVISION AND DEFECT LIABILITY PERIOD

The consultant shall be responsible for all supervision work of retrofitting, repairing, maintenance work including the followings but not limited to.

3.6.1 Contract Administration

The consultant shall take responsibility of contract administration in accordance with the provisions of the contract between the NRA and the construction contractor and ensure the quality of works executed by the Contractor as per the contract. The Consultant shall be responsible for construction supervision to ensure timely completion of the contract, Quality assurance checks and tests, preparing and recommendation of variation order if required, provision working drawings and instructions to the contractor, checking and approving Contractor's shop drawings, measurement and billing of works executed by the Contractor, certification for payments of the works executed in conformity with the contract requirements.

3.6.1.1 Supervision of Construction Works

- The Consultant should provide the necessary supervisory staff to be employed during the period of implementation in executive and supervisory capacities in respect of the construction contracts. The Consultant will be delegated with all normal duties and powers of the "Residential Engineer as a project manager" for the implementation of the project.
- It will be the responsibility of the Consultant to supervise all operations from the time of demolition of existing buildings to the handover of the completed new building on behalf of the NRA and to ensure that the work of the Contractor(s) carried out in a proper workmanship and expeditious manner and in accordance with the contract documents.
- The Consultant will check, approve, reject and record, as the case may be, inter alia, the following:
    - Contractor(s)' construction plant and equipment
    - Materials of construction
    - Construction material testing, procedures and results
    - Construction of site works: concrete structures, steel structures, finishing, mechanical, water supply, sanitation &electrical works and other utilities as required.
    - Review and approve all methods proposed by the Contractor(s) for permanent and temporary works, formwork, etc. to ensure conformity with construction contracts and that the work can be carried out safely and in accordance with recognized and accepted practices.
    - Re-design if any parts or element requires so.

3.6.1.2 Issue of Instructions to the Contractor(s)

- These services will relate to the fulfillment of the contractor(s)' duties from drawing up and approval of the work program till the completion of works. The services will include issuing field instructions in writing as required relating to:
    - Quality of materials used in the works and quality of construction work
    - Equipment and methods of construction
    - Supervision, checking and testing of works carried out.
    - Clarification of drawings and specifications.
    - Progress of works to ensure that the work program is adhered to.

- The Consultant shall not give any instructions which in his opinion are likely to increase the cost of works without the prior approval of the NRA.

3.6.1.3 Advice to the NRA on Progress of Works

It is of utmost importance that the progress of the works is in accordance with the programmed implementation schedule since the timely implementation of the project necessitates the strict adherence to the approved timetable. The Consultant will keep advised the NRA continuously as the work progresses. If any deviation from the implementation schedule occurs, the Consultant will inform the NRA about the necessary measures to be taken to avoid the delay in the running of the project.

3.6.1.4 Inspection and Testing of Works

- At all stages of implementation, the consultant shall carry out regular inspection of materials and workmanship and acceptance tests. The frequency of test shall be as per Norms and specification approved by NRA to ensure compliance with the specifications. Where work on site at any time during the implementation does not meet the requirements of the specifications, it shall remove or rectify immediately.
- The consultant shall carry out inspection at time of substantial completion of the works and arrange for issue of the Initial Hand-Over Certificate in coordination with the NRA.
- The consultant shall undertake periodic inspections during the Defects Liability Period and notify the NRA and Contractor of any defect on the construction works, and supervising their repair. Following the expiry of the Defects and Liability period, arrange for issuing of the Final Hand-Over Certificate in coordination with the NRA.

3.6.1.5 Approval of Payment Certificates

The consultant shall:

- Check, verify the measurements of works done by the Contractor and submit through interim/ final payment certificates and certify payments due to the Contractor to the NRA for approval and payments.
- Certify all of the Contractor(s)' monthly statement and final statement within the time specified in the contract and forward to the NRA for arrangement of the payment.
- Keep accurate records of all dates and quantities of work carried out, all payments made to the Contractor(s), and all materials and equipment supplied to the site during the course of works.
- Check and certify for approval the as built drawings submitted by contractor to the NRA.

3.6.1.6 Inspection of Defects and Preparation of the Project Closure report

The consultant shall:

- Check, verify and issue order for correcting the defects that arises during the defect liability period in each three months from the date of issue of work acceptance letter.
- Certify for final payment including release of retention money after defect liability period.

- Make a project closure report including work acceptance certificate, final contract bill along with the as built drawings submitted by the contractor.

3.6.2 DEFECT LIABILITY

3.6.2.1 Responsibility for survey and design

Submission of the final reports does not relieve the consultant from their responsibility to the design. They shall bear full responsibility for correctness of the:

i. Design and all the calculations (except for the Standard Design, if used)
ii. Drawings
iii. Any other details related to construction

3.6.2.2 Assistance during construction phase

During construction, the consultants should visit the Building and provide necessary technical assistance. If any changes in the design are required, the consultants should furnish it free of cost as per the Condition of Contract.

3.6.2.3 Acceptance of responsibility

The Consultants may be asked to submit signed Statement of Acceptance of Responsibility as per NRA requirement.

3.7 SUBMISSION OF REPORTS AND PRESENTATION OF THE WORKS

The consultant shall submit reports phase wise as described hereunder:

Phase I: Structural Condition Assessment

Inception Report

Preliminary inception report shall be submitted to NRA in four copies and should be discussed with NRA. This should contain master concepts of the overall project as well as time schedule with respect to complete the Phase-I.

Preliminary Study Report

Preliminary study Report shall contain the necessary number and type of tests required.

Draft Report

This report shall contain the test results, and short descriptions relating to the structural condition of the building.

Presentation of the Draft Report

The consultant shall present the draft report in specified standard format and defend it to the NRA and other stakeholders prior to the submission of the final report of Phase I. This report shall be submitted in four copies. The NRA may also ask to present the Draft Report to all stakeholders' officials. The cost of such presentation shall be borne by the Consultants.

Final report:

This report shall be submitted in four copies. The report shall include all the outputs related to objectives and scopes of Phase I along with the as built drawings, complete inventory information, test results if any and conclusion of structural condition assessment with necessary recommendations.

Phase II: Intervention Design and Procurement of Works

Preliminary Design Report:

This report shall contain the preliminary design concepts and short descriptions relating to the proposed structure and its major components. This report shall be submitted in four copies and the content shall be discussed with NRA before proceeding to the detailed design of the building. The NRA may also ask to present the Preliminary Design Report to all stakeholders' officials. The cost of such presentation shall be borne by the Consultants.

Draft Report

This report shall be in standard format, containing all the required components of the design and be presented in clear and easy to refer formats as per the general design

Guidance attached. The complete set of the report should consist of:

1.1 Volume I – Main Report
1.2 Volume II – Detailed Engineering Design Drawing with Working Details and test results.
1.3 Volume III – Design Calculations
1.4 Volume IV – BOQ and Special Provisions to Standard Specifications, if any

This report shall be submitted in four copies. The Report shall also include the drawings, quantity and cost estimate of any Standard Design that is used in the Design.

Presentation of the Draft Report

The Consultants shall present the design report in specified standard format and defend it to the NRA and other stakeholders prior to the submission of the final report. They shall review the issues raised during the presentation while finalizing the report and make necessary amendments/corrections if needed. The date and venue of the presentation shall be determined by mutual agreement between the NRA and the consultants. The cost of such presentation shall be borne by the consultants.

Final Design Report

Apart from the presentation, the NRA will verify the content of the report against the Terms of Reference (TOR) and the checklist. The NRA may also discuss upon the technical content of the report and may suggest some changes if thought necessary. While preparing the Final Report the consultants shall consider the comments/suggestions and make corrections or amendments if required. It does not, however, relieve the Consultants of their responsibility over the technical content of the design. The final report shall be submitted in four copies including all design parameters, detailed structural design, working drawings (if any), Electrical, sanitary, mechanical design, rate analysis, quotations (if any for reference cost) cost estimate, bill of quantity.

Soft copy (electronic copy) of the design

Apart from the bound report the consultants shall submit soft copies (electronic copies) of the final report in CD-ROMs.

Procurement of Works

The consultant shall assist to prepare the bidding documents, shall assist to invite for competitive bidders to be advertised in newspaper which should contain essential information about the project and also process the advertisement in coordination with the NRA. The consultant shall assist the NRA for evaluation of Bids and to prepare the bid evaluation report.

PHASE III: CONSTRUCTION SUPERVISION AND DEFECT LIABILITY PERIOD

- The Consultant will keep the NRA continually informed on the progress of the works, and all budgetary and financial matters pertaining to the project, by submitted to the following reports:
- Monthly progress reports including: information on measurements of works, executed, equipment and material supplied to site, used and/or stored, Quality tests on earthworks, concrete works, construction, materials and equipment, Labor force employed, variation orders if any, payments made to the, Contractor(s), acceptance tests of structures, problems encountered and recommendation made by the consultant, photographs recording the progress of work. This report shall be, submitted in four copies.
- Arrange site meetings with Contractor(s) on weekly basis to discuss progress and quality of works, and resolve any pertaining problem, the report of the meetings and agreed points should be included on the monthly progress report that to be submitted to NRA.
- Final report on completion of works and/or Consultants' assignment. The consultant will prepare and advise on the issue of the Initial and Final Hand-Over Certificates. This report shall be submitted in four copies.
- The Consultant shall issue Variation order and claims for extension of time or any change in works according to the contract after obtaining the approval of the NRA. The Consultant shall also monitor the contract costs relative to the NRA's budgetary provisions.

Monthly progress report

The consultant shall submit a monthly work progress report of construction work.

Final Completion Report

The consultant shall prepare and submit a final work completion report along with work acceptance certificate and certify as built drawings submitted by the contractor after completion of the construction work.

3.8 TIME SCHEDULE

If not indicated otherwise in the contract documents the consultant shall complete the assigned works as per the following schedule:

Phase I: Structural Condition Assessment

a. Inception Report within 2 (Two) weeks from the date of signing of the contract.
b. Preliminary study Report including necessary number and type of tests required within 3 (Three) weeks from the date of signing of the Contract.
c. Draft Report including as built drawings and complete inventory information's within 5 (Five) weeks from the date of signing of contract.
d. Final Structural Condition Assessment Report within 1.5 (One & half) months from the date of signing of contract.

Phase II: Intervention Design and Procurement of Works

a) Preliminary Design Report within 2 (Two) months from the date of signing of the Contract.
b) Draft Report within 2 months and 3 weeks from the date of signing of contract.
c) Final Design and Estimate Report within 3.5 (Three and half) months from the date of signing of contract.
d) Procurement Documents all complete within 4 (Four) months from the date of signing of contract.

Phase III: Construction Supervision and Defect Liability Period

Supervision of retrofitting, repairing and maintenance works until completion of Defect Liability period (expected time 9 months + 1 Year). The construction work is estimated to be completed in 9 months from the date of issue of letter of commencement to the contractor and defect liability period will be 1 (One) year from the date of issue of work acceptance certificate.

a) Ongoing Construction progress Report and presentation within 3 (Three) months from the date of signing of the Contract with the contractor.
b) Ongoing Construction progress Report and presentation within 6(Six) months from the date of signing of the Contract with the contractor.
c) Ongoing Construction progress Report and presentation within 8 (Eight) months from the date of signing of the Contract with the contractor.
d) Final completion report and presentation of construction within 9(Nine) months from the date of signing of the contract with the contractor.
e) Final overall report at the end of defect liability period.

3.9 PAYMENT SCHEDULE

The contract will be lump-sum cum time based contract. For structural condition assessment phase, design and procurement phase the consultant will be paid on lump-sum based whereas for Construction Supervision Phase the consultant will be paid based on actual input of the expert. The reimbursable expenses will be paid on actual expenditure basis on submission of invoices/bill and receipt. If not indicated otherwise in the contract documents the consultant shall be paid as per the following schedule:

Phase I: Structural Condition Assessment

20% of total payment will be made in the phase I.

i) 20 % of Phase I payment after submission and Acceptance of Inception Report & Preliminary Study Report.
ii) 50 % of Phase I payment after submission and Acceptance of Draft Report.
iii) 30% of Phase I payment after submission and Acceptance of Final Report of Phase I.

Phase II: Intervention Design and Procurement of Works

25% of total payment will be made in the phase I.

i) 20 % of Phase II payment after submission and Acceptance of Preliminary Design Report.
ii) 50 % of Phase II payment after submission and Acceptance of Draft Report.
iii) 30% of Phase II payment after submission and Acceptance of Final Report of Phase II.

Phase III: Construction Supervision and Defect Liability Period

55% of total payment will be made after completion of phase III work.

Note: If the Extension of Time for construction work is done due to Client's and/or Contractor's default, extra monthly remuneration to the full time staff (Resident engineer-Civil and Supervisor-Civil) shall be paid for the duration of extended time at the rate agreed during contract negotiation.
(The payment schedule of construction phase can be revised during contract negotiation)

3.10 TENTATIVE STAFFING REQUIREMENTS

The consulting services shall be carried out by National consultants. The firm shall have extensive experience in the structural design especially in retrofitting design, planning, survey, investigations, design and documentation, procurement and construction supervision of modern as well as traditional Office Building. It is anticipated that the consultant organization will be as set out in Staff Input, although in preparing their proposals the consultants may propose alternative arrangement which in their opinion, will provide required services of an equivalent or better quality.

The total minimum key staffing inputs has been estimated at about 68.5 person-months (7.5 person-months for the Assessment, 15 person-months for the Design and procurement phase and 46 person-months for the construction supervision phase including DLP). It is expected that the consultants will propose their required person-months to carry out the task as per the Terms of Reference. Except the key persons, the consultant shall show the availability of other supporting staffs like draft persons, surveyor, site supervisors, and others (if any). The breakdown of estimated key staff input is given below.

S.N.	Description of Experts	Nos.	Person-month Requirement			Total
			Phase I	Phase II	Phase III	
1	Team Leader/ Senior Structural Engineer/senior Earthquake engineer	1	1.5	2.5	13	17
2	Structural Engineer / Earthquake Engineer	1	1.5	2.5	4	8
3	Architect	1	1.5	2.5	4	8
4	Water Supply/ Sanitary Engineer	1	0.5	0.5	1.5	2.5
5	Electrical Engineer	1	0.5	1	3.5	5
6	Quantity Surveyor Engineer	1	0	2	0	2
8	Mechanical Engineer	1	0.5	0.5	1	2
9	Geo-Technical Engineer	1	0.5	0.5	0	1
10	Archeologist	1	1	1	3	5
11	Computer Networking and Communication Specialist	1	0	1	2	3
12	Procurement/Contract Specialist	1	0	1	1	2
13	Civil (Resident) Engineer (for Construction Supervision)	1	0	0	13	13
Total			**7.5**	**15**	**46**	**68.5**

Besides the key staffs various support staffs like surveyors, draft persons, computer operator etc. will be required. Total estimated man-months of supporting staffs including site supervisor for full time is 27 man-months.

3.11 ROLES, RESPONSIBILITY AND QUALIFICATION OF KEY PERSONAL

The roles and responsibilities mentioned hereunder do not relieve the consultant from any task of scope of work. If the roles and responsibilities mentioned hereunder do not cover the entire scope of work the consultant has to assign the task to the relevant experts.

S.N.	Key Personnel	Minimum Qualification
1	Team Leader/ Senior Structural Engineer	a. Master's degree in structural/earthquake engineering having 10 years of relevant work experience or Ph. D in structural/earthquake engineering with 5 years of working experience.

		b. Should show written evidences of having knowledge of structural dynamics and numerical modelling with finite element method.
2	Structural/ Earthquake Engineer	a. Minimum Master's degree in earthquake/structural engineering having 5 years of relevant work experience. b. Should show written evidences of studying structural dynamics, computation techniques such as finite element method, earthquake engineering/seismic risk analysis and having knowledge of numerical modelling.
3	Architect	a. Bachelor degree in architectural engineering having 5 years of relevant work experience. b. Should show written evidence of having knowledge of vernacular architecture and heritage structures.
4	Geo-technical Engineer	a. Master's degree in geo-tech engineering with having 5 years of relevant work experience. b. Should show written evidences of having knowledge of geotechnical earthquake engineering.
5	Archaeologist	a. Master degree in archaeology with 10 years of experiences in conservation, natural heritage or in relevant field. b. Should show written evidence of having knowledge of heritage structures.
6	Procurement specialist	Master degree in civil engineering or construction management or Project management with 5 years' experience after bachelor degree and specific experience in project management/ contract management..
7	Water supply/ sanitary Engineer	Bachelor degree in civil engineering with 5 years' experience after bachelor degree and specific experience in water supply/ sanitary design.
8	Electrical Engineer	Bachelor degree in Electrical engineering with 5 years' experience after bachelor degree and specific experience in electrical design in a building
9	Quantity Surveyor Engineer	Bachelor degree in civil engineering with 5 years' experience after bachelor degree and specific experience in quantity estimation of a building.
10	Quality Control Engineer	Bachelor degree in civil engineering with 5 years' experience after bachelor degree and specific experience in quality control in at least two building project.
11	Mechanical Engineer	Bachelor's degree in Mechanical engineering having 5 years of relevant work experience
12	Computer networking and communication specialist	Bachelor degree in Computer, Electronic engineering/Science, communication technology with 5 years' experience after bachelor degree and specific experience in networking and communication system design in at least one building project.

13	Civil (Resident) engineer	Bachelor degree in civil engineering with 5 years' experience after bachelor degree and specific experience in water supply/ sanitary design.

DUTIES, ROLES AND RESPONSIBILITIES OF KEY PERSONNEL

3.11.1 Team Leader/Senior Structural Engineer

Roles and Responsibilities

- Ensure overall coordination, and assist the entire team of consultants in performing their responsibilities inputs to complete the design works on time;
- Supervise consulting team member and monitor their performance to ensure quality of design works;
- Carry out detail damage assessment and prepare drawings and working drawings;
- Overall structural design and finalization of structural design and drawings including demolition drawings if necessary;
- Preparation of Bidding and Working structural design and drawings;
- Supervision of Construction works especially the structural part;
- Ensure that the overall structural design is as per Nepal National Building Code and Other Standards;
- Manage and conduct presentation as and when required;
- Overall management of the assignment, correspondence with employer;
- Work in close coordination with other experts as and when necessary for the successful completion of project.

3.11.2 Structural Engineer

Roles and Responsibilities

- Assist team leader to perform his responsibilities
- Work in close coordination with other experts, as and when necessary for the successful implementation of the project.
- Prepare structural design and drawings.
- Carry out survey/assessment, analysis.
- Work in close coordination with other experts as and when necessary for the successful completion of project.

3.11.3 Architect

Roles and Responsibilities

- Assist team leader to perform his responsibilities;
- Work in close coordination with other experts, as and when necessary for the successful implementation of the project.
- Prepare architectural design and drawings.
- Work in close coordination with other experts as and when necessary for the successful completion of project.

3.11.4 Geo-technical engineer

Roles and Responsibilities

- Assist team leader to perform his responsibilities
- Work in close coordination with other experts, as and when necessary for the successful implementation of the project.
- Carry out geo-technical investigation and analysis.
- Prepare geo-technical investigation report
- Find out and study the earlier Geotechnical Report of the Singh Durbar territory if any.
- Work in close coordination with other experts as and when necessary for the successful completion of project.

3.11.5 Archeologist

Roles and Responsibilities

- Assist team leader to perform his responsibilities
- Work in close coordination with other experts, as and when necessary for the successful implementation of the project.
- Identify and Prepare inventory of archeologically important elements.
- Assist to prepare cost estimate of archeologically important elements
- Coordinate with department of archeology and get consensus (if any).
- Work in close coordination with other experts as and when necessary for the successful completion of project.

3.11.6 Procurement/Contract Management Specialist

Roles and Responsibilities

- Prepare concise reports regarding procurement matters, contracting and contract management;
- Preparation of procurement related documents required for the procurement of goods, consulting services and works;
- Decide on optimal procurement methods, including packaging, and processing procurement, including advertising, pre-qualifying and short listing etc;
- Assist in receiving bids/proposals and examining the same and in writing evaluation reports;
- Assist in development of bidding document as per GON requirement;
- Assistance in Bid Evaluation;
- Provide periodic analysis of contract performance and preparation of reports on overall Building construction Progress Report including checking and recommendation for payment of interim bills, final bills;
- Prepare work acceptance and work completion certificates;
- Work in close coordination with other experts as and when necessary for the successful completion of project.

3.11.7 Water Supply/Sanitary Engineer

Roles and Responsibilities

- Find defects if any in existing system, prepare solution for rectification;
- Planning & Designing of water supply and sanitation system in building;
- Preparation of drawings & estimation of water supply and sanitation works;
- Supervision of the water supply and sanitation system in the building works.
- Work in close coordination with other experts, as and when necessary for the successful implementation of the project.

3.11.8 Electrical Engineer

Roles and Responsibilities

- Find defects if any in existing system, prepare solution for rectification;
- Planning & Designing of electrical system in building;
- Preparation of drawings & estimation of electrical design works;
- Supervision of the electrical system in the building works including during demolition.
- Work in close coordination with other experts, as and when necessary for the successful implementation of the project

3.11.9 Quantity Surveyor/ Engineer

Roles and Responsibilities

- Cost estimation, cost planning, feasibility studies, cost benefit analysis, lifecycle costing and valuation of building works.
- To provide methods for Efficient and effective utilization of resources (materials, manpower, money)
- Planning and scheduling of construction activities and resource allocation.
- Valuating the reusable debris and preparing price of the reusable material and cost of debris management;
- Cost control during construction phase;
- Contract procurement, bid evaluation and dispute resolution;
- Work in close coordination with other experts, as and when necessary for the successful implementation of the project.

3.11.10Mechanical Engineer

Roles and Responsibilities

- Find defects if any in existing system, prepare solution for rectification;
- Planning & Designing of mechanical system in building;
- Preparation of drawings & estimation of mechanical system design works;
- Supervision of the mechanical system installation or demolition in the building works;
- Work in close coordination with other experts, as and when necessary for the successful implementation of the project.

3.11.11Computer Networking and Communication Specialist

Roles and Responsibilities

- Designing of various communication &computer network systems;
- Database system designing;
- Work stations designing for National Library;
- IT system requirement analysis;
- Preparation of design and drawings of networking and communication facilities;
- Supervision of networking and communication works;
- Work in close coordination with other experts, as and when necessary for the successful implementation of the project.

3.11.12Civil (Resident) Engineer

Roles and Responsibilities

- Supervision of all retrofitting, repair and maintenance work;
- Prepare working drawings as and when necessary;
- Monitoring of the civil engineering construction works;
- Assist to prepare interim running bills, final bills, work acceptance and work completion certificate etc.
- Other works as required by Project;
- Assessment of technical needs based on client Needs.

3.12 EQUIPMENT/ VEHICLES AND OTHER LOGISTICS

The consultant has to presume that the facilities and other logistic required for conducting structural condition assessment, detail engineering design and construction supervision shall be managed by the consultant firm itself.

3.13 NRA INPUT

NRA will provide assistance and guidance for the execution of this assignment. NRA will provide one counterpart staff for liaising purposes. It will carefully and closely monitor the performance, its quality and adherence to the time line and make necessary recommendations as per requirement.

3.14 WORKING ARRANGEMENT

All the experts under the consulting firm shall perform the task under the guidance of NRA and Team Leader. All the experts will report to the Team Leader and the Team Leader is responsible for deputing other experts in the field and office. He is also responsible for coordination with NRA, Organizing Presentations and reporting to the Director of NRA. The team leader shall visit the field regularly (at least twice a week or more) and the NRA or as per the requirement.

3.15 RECRUITMENT OF THE CONSULTANT

Recruitment of the Consultant shall be carried out as per the Public Procurement Act, 2063; Public Procurement Regulation, 2064 and Public Procurement Procedure of Earthquake affected Infrastructure Reconstruction.

3.16 AGREEMENT

The Consultant will be required to enter into an agreement with NRA. The terms and condition of the agreement shall be given with Request for Proposal if the firm shortlisted.

3.17 INDEMNITY

The consultant shall be responsible for any damage of life, property that may arise out of his works and he shall take all necessary insurance provision to indemnify any claims for compensation that may arise due to his negligence.

3.18 TAXATION

The Consultant shall be fully responsible for all taxes including VAT applicable as per the rules and regulations of Government of Nepal and for that the taxes except VAT shall be deducted at the source at the time of payment. The consultant shall be responsible for clearance of VAT. All payments shall be made after deducting taxes.

3.19 DISPOSITION OF FACILITIES

The consultant shall hand over to NRA office all equipment, apparatus or other things procured by the project funding used by the firms as well as by other experts during the assignment. All items handed over to the NRA office shall be in good operating condition but fair wear and tear is expected. Items, which have become unserviceable due to negligence or causes other than fair usage, shall be replaced at the consultant's expense.

CONTACT ADDRESS
Procurement Unit
National Reconstruction Authority
Singhadurbar, Kathmandu, Nepal
Tel: 01-4211491, 4200626, 01-4211201
Fax:

4. Evaluation of Consultant's EOI Application

Consultant's EOI application which meets the eligibility criteria will be ranked on the basis of the Ranking Criteria.

i) Eligibility& Completeness Test	**Compliance**
Copy of Registration of the company/firm	
VAT/PAN Registration	
Tax Clearance/Tax Return Submission/Letter of Time Extension for Tax Return Submission **F.Y. 2072/073**	
EOI Form 1: Letter of Application	
EOI Form 2: Applicant's Information Form	
EOI Form 3: Experience (3(A) ,3(B) 3(C))	
EOI Form 4: Capacity	
EOI Form 5: Experience of Team leader	

ii) EOI Evaluation Criteria	**Minimum Requirement**	**Score [Out of 100%]**
A. Qualification (25 % Marks)		
Qualification of Team leader		10%
Experience of Team Leader		15 %
B. Experience (60 % Marks)		
General experience of consulting firm		15 %
Specific experience of consulting firm in study, design, construction supervision of retrofitting works in buildings within last 7 years.		15 %
Specific experience of consulting firm in study, design, construction supervision of retrofitting works in Heritage Structure within last 7 years.		30 %
C. Capacity (15 % Marks)		
Financial Capacity		15%

5. EoI Forms and Formats

Form 1.Letter of Application

Form 2.Applicant's information

Form 3 Experience *(General, Specific)*

Form 4.Capacity

Form 5.Qualification of Team Leader

Form 1: Letter of Application

(Letterhead paper of the Applicant or partner responsible for a joint venture, including full postal address, telephone no., fax and email address)

Date:
.....

To,

Full Name of Client: _____

Full Address of Client: _____

Telephone No.: _____

Fax No.: _____

Email Address: _____

Sir/Madam,

1. Being duly authorized to represent and act on behalf of…… ……..(hereinafter "the Applicant"), and having reviewed and fully understood all the short-listing information provided in the EoI document, the undersigned hereby apply to be short-listed by National Reconstruction Authority (NRA)as Consultant for Structural Condition Assessment and Strengthening/ Retrofitting Design of West Lounge of Singhadurbar, Singhadurbar, Kathmandu

2. Attached to this letter are photocopies of original documents defining:

    a) the Applicant's legal status;

    b) the principal place of business;

3. National Reconstruction Authority (NRA) and its authorized representatives are hereby authorized to verify the statements, documents, and information submitted in connection with this application. This Letter of Application will also serve as authorization to any individual or authorized representative of any institution referred to in the supporting information, to provide such information deemed necessary and requested by yourselves to verify statements and information provided in this application, or with regard to the resources, experience, and competence of the Applicant.

4. National Reconstruction Authority (NRA) and its authorized representatives are authorized to contact any of the signatories to this letter for any further information.[1]

5. All further communication concerning this Application should be addressed to the following person,

    [Person]

    [Company]

[1] Applications by joint ventures should provide on a separate sheet, relevant information for each party to the Application.

[Address]

[Phone, Fax, Email]

6. We declare that, we have no conflict of interest in the proposed procurement proceedings and we have not been punished for an offense relating to the concerned profession or business and our Company/firm has not been declared ineligible.

7. We further confirm that, if any of our experts is engaged to prepare the TOR for any ensuing assignment resulting from our work product under this assignment, our firm, JV member or sub-consultant, and the expert(s) will be disqualified from short-listing and participation in the assignment.

8. The undersigned declares that the statements made and the information provided in the duly completed application are complete, true and correct in every detail.

Signature:

Name:

For and on behalf of (name of Applicant or partner of a joint venture):

Form 2: Applicant's Information Form

(In case of joint venture of two or more firms to be filled separately for each constituent member)

1. Name of Firm/Company:

2. Type of Constitution (*Partnership/ Pvt. Ltd/Public Ltd/ Public Sector/ NGO)*

3. Date of Registration / Commencement of Business *(Please specify):*

4. Country of Registration:

5. Registered Office/Place of Business:

6. Telephone No; Fax No; E-Mail Address

7. Name of Authorized Contact Person / Designation/ Address/Telephone:

8. Name of Authorized Local Agent /Address/Telephone:

9. Consultant's Organization:

10. Total number of staff:

11. Number of regular professional staff:

(Provide Company Profile with description of the background and organization of the Consultant and, if applicable, for each joint venture partner for this assignment.)

Form 3: Experience of Firm

3(A).General Work Experience of the consulting firm in civil engineering works.

List of experiences in detail engineering design and/or construction supervision of any infrastructure projects completed successfully in last 7 years (more than three projects of the same nature shall not be considered for scoring.)
(In case of Joint Venture of two or more firms to be filled separately for each constituent member)

S. N.	Name of assignment	Location	Value of Contract	Year Completed	Client	Short Description of work carried out
1.						
2.						
3.						
4.						
5.						
6.						
7.						

Please attach additional sheet if needed.

Signature & Designation of Applicant: *Date:* *Seal of the firm:*

Note: the experience of the consultant shall be supported with evidence/proof in the form of experience certificates/ completions certificate showing dates of completion of the assignment and value of the consulting assignments. The experience of the consulting form without evidence/proof will not be considered for evaluation.

3(B) Specific Experience of consulting firm in Building Works.

List of experience in study, documentation, survey, design, drawing, construction supervision, retrofitting works in buildingcompleted successfully in last 7 years

(In case of joint venture of two or more firms to be filled separately for each constituent member)

Number of Assignments	Name of assignment	Location	Client	Value of Contract	Execution Year and Duration	Type of Structures	Short Description of work carried *out*
1.							
2.							
3.							
4.							
5.							
6.							
7.							

Please attach additional sheet if needed.

Signature & Designation of Applicant: *Date:* *Seal of the firm:*

Note: the experience of the consultant shall be supported with evidence/proof in the form of experience certificates/ completions certificate showing dates of completion of the assignment and value of the consulting assignments. The experience of the consulting form without evidence/proof will not be considered for evaluation.

3(C) Specific Experience of consulting firm in Heritage Buildings.

List of experience in study, documentation, survey, design, drawing, construction supervision, and retrofitting works in Heritage Buildingscompleted successfully in last 7 years.

(In case of joint venture of two or more firms to be filled separately for each constituent member)

S.N.	Name of assignment	Location	Client	Value of Contract	Execution Year and Duration	Type of Structures	Short Description of work carried *out*
1.							
2.							
3.							
4.							
5.							
6.							
7.							

Date: *signature & designation of applicant:* *Seal of the firm.*

Note: the experience of the consultant shall be supported with evidence/proof in the form of experience certificates/ completions certificate showing dates of completion of the assignment and value of the consulting assignments. The experience of the consulting form without evidence/proof will not be considered for evaluation.

Form 4: Capacity

4(A). Financial Capacity

(In case of joint venture of two or more firms to be filled separately for each constituent member)

Full Name of the Consultant:

Financial Status

Description	Amount
Total assets	
Total liabilities	
Current liabilities	
Current assets	
Current credit resources	

Annual Turnover	
Year	**Amount Currency**

- **Average Annual Turnover**

(Note: The best 3 years Average Annual Turnover of last 7 years will be considered for evaluation. Supporting documents for Average Annual Turnover should be submitted for the above.)

Form 5: Experience of Team Leader

A. (Experience in design of Retrofit or design of buildings only)

S.N.	Name of Project	Location	Client	Execution Year and Duration	Type of Structures	Short Description of work carried *out*
1.						
2.						
3.						
4.						

B. (Experiences in investigation/identification of dynamic properties of building/structures (micro tremor or non-destructive test or published paper in proceedings or journals))

S.N.	Title of Paper	Journal of publication	Year of publication	Authors
1				
2				
3				
4				

Date: *signature & designation of Team Leader:*

Note: The experience of the Team leader shall be supported with evidence/proof in the form of experience certificates/ completions certificate showing dates of completion of the assignment. The experience of the Team Leader without evidence/proof will not be considered for evaluation.